

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Goedhart, et al      ATTY. DOCKET: US 20050487/  
4447.76704 (C7736(V))  
SERIAL NO.: 10/734,027      EXAMINER: Ria Ramesh Patel  
FILING DATE: December 11, 2003      GROUP ART UNIT: 1746  
CONFIRMATION NO.: 2361  
TITLE: "SOLVENT CLEANING PROCESS"

**DECLARATION OF INVENTOR OF PRIOR INVENTION  
TO OVERCOME CITED PUBLICATION (37 C.F.R. §1.131)**

1. I am one of the named inventors of the claimed subject matter of the above-identified patent application.
2. I have reviewed the Pub. No. US2005/0091755 A1 to Conrad, et al., that has been cited by the Examiner in the above-identified patent application.
3. I am also one of the named inventors of the claimed subject matter of the cited Conrad, et al. published application.
4. The purpose of this Declaration is to overcome Conrad, et al. as a prior art reference in the rejection of the claims set forth in the Office Action dated August 8, 2007 for the above-identified application.
5. As background, the claimed subject matter of the present application, and the subject matter disclosed in the cited Conrad et al. application, were the result of a single project involving teams of persons employed by Whirlpool Corporation and one or more Unilever companies. A number of patent applications were prepared and filed as a result of that project, including the present application, and the Conrad et al. application, naming various Whirlpool and Unilever personnel as inventors.

6. During the course of the project, presentations were made by various members of the teams working on the project to other members of the teams working on the project.

7. Attached as **Exhibit A** is a print out of the slides of a Power Point presentation that I and other co-inventors of the present application made to other team members well prior to the filing date of the Conrad, et al. application. The date of the presentation has been redacted from the slide, however, the date was well in advance of October 31, 2003.

8. The figures of the PowerPoint presentation contains substantially all of the components arranged as shown in the figure of the present application.

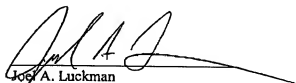
9. The figures of the PowerPoint presentation, and the actual presentation given, including the photograph on slide 3, demonstrate that the invention was conceived and reduced to practice before the October 31, 2003 filing date of Conrad, et al.

10. The foregoing paragraphs and **Exhibit A** clearly show that Conrad, et al. is not prior art to the claimed invention of the above-identified application.

11. The Conrad, et al. application, and the present application, are both commonly owned by Whirlpool Corporation, as evidenced by assignments signed by all of the inventors, and by Unilever Home & Personal Care USA, Division of Conopco, Inc., and recorded with the USPTO.

12. As the person signing below, I hereby declare that all statements made herein of my own knowledge are true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under 18 U.S.C. §1001, and that any such willful false statements may jeopardize the validity of the above captioned application or any patent issued thereon.

Dated: 9/28/07

  
Joe A. Luckman

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## **Update: Fluid reclamation and waste disposal**

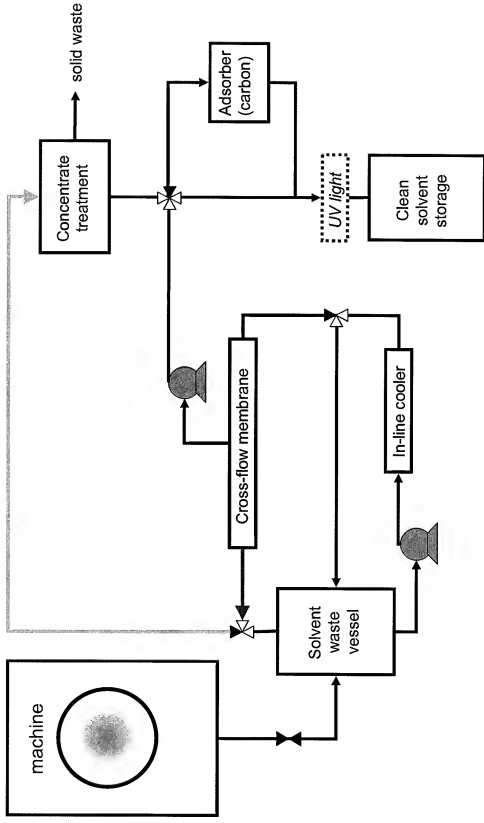
Mick Goedhart, Joel Luckman, Hank Reinhoudt, Theo Verbeek and Vicki Wyatt

Unilever / Whirlpool

Benton Harbor

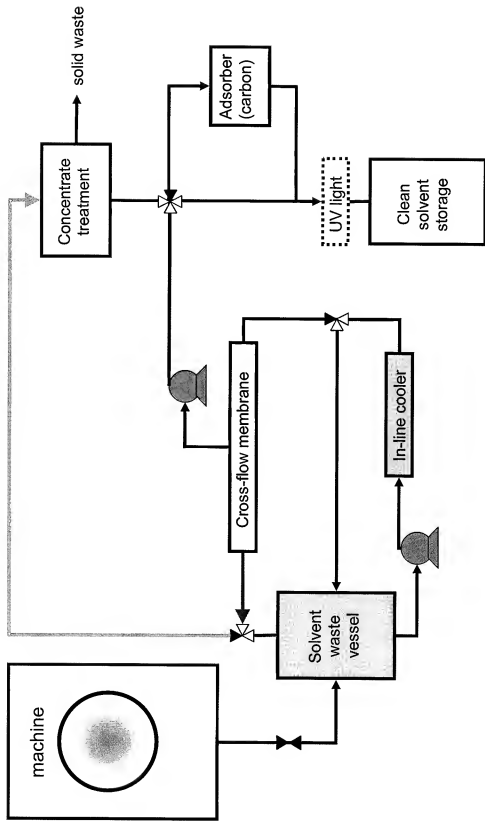
# Fluid reclamation process scheme

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# In-line cooler

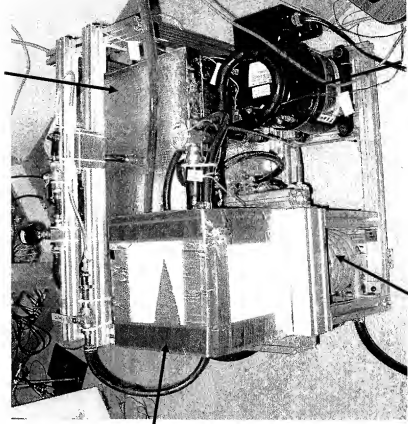
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## In-line cooler: objective

To reduce the solubility of dissolved compounds by cooling to enhance the removal of these compounds from the solvent by the cross flow membrane.

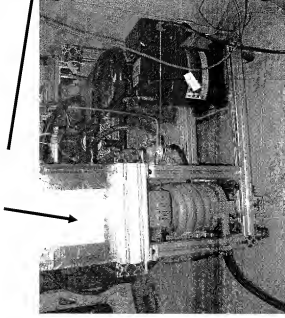
Waste tank



Heat exchanger

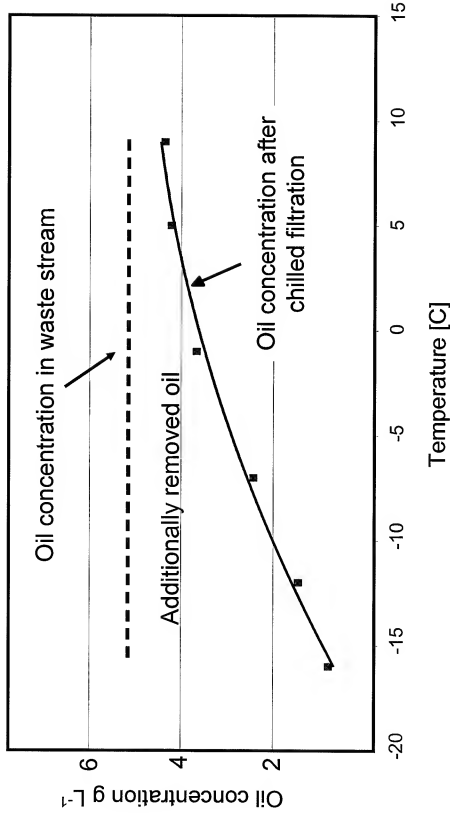
Compressor

In-line cooler



## Proof of principle of in-line cooling

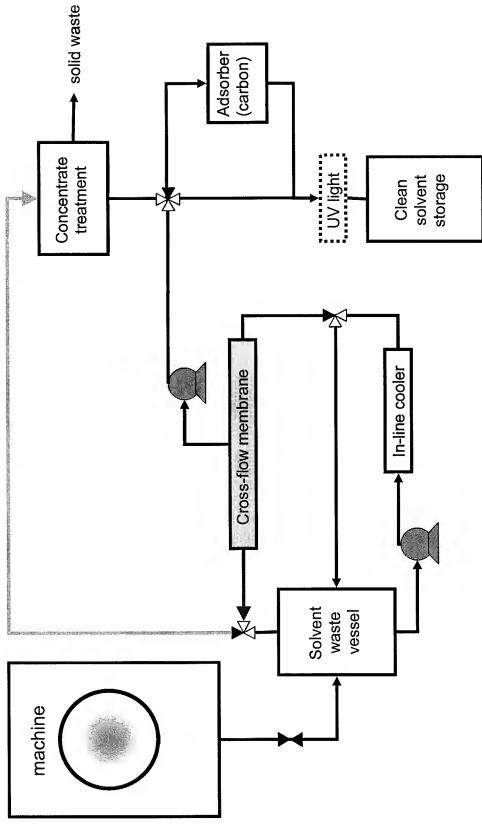
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Cooling of the waste stream allows a more efficient removal of dissolved compounds via cross flow filtration.

# Cross flow membrane stability

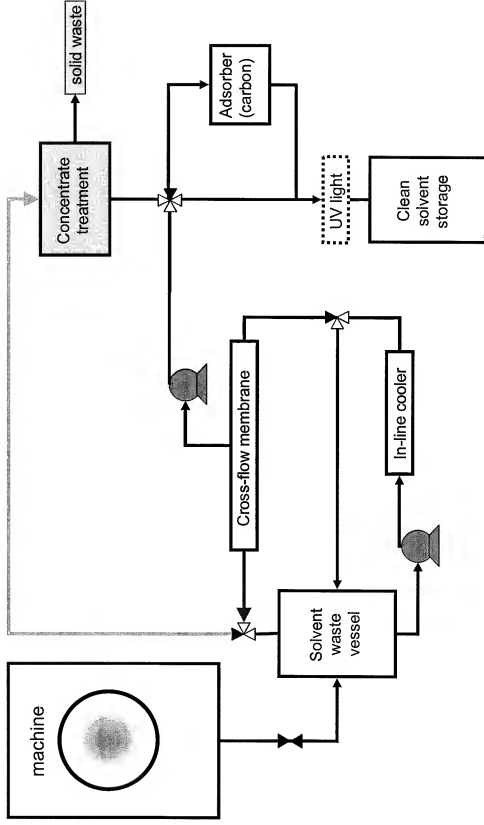
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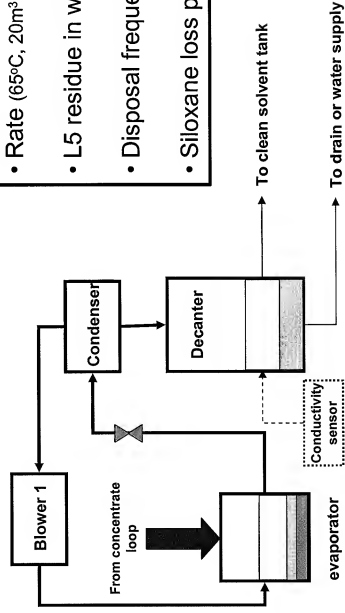
# Concentrate treatment and solid waste disposal

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## Concentrate stream treatment

To separate and dry waste compounds (surfactants, fats, particulate matter, water, lint) from the remaining 1 kg of siloxane slurry.



### Key numbers

- Rate (65°C, 20m<sup>3</sup> h<sup>-1</sup>) 180 minutes
- L5 residue in waste 0.1 w. %
- Disposal frequency 10-20 washes
- Siloxane loss per wash 0.1 g